What is claimed is:

1. A method of handling a faulting memory of a pair of mirrored memories, comprising:

initially causing a non-faulting memory of the pair of mirrored memories to service all read and write operations for the pair of mirrored memories;

determining that hardware corresponding to the faulting memory of the pair of mirrored memories has been successfully replaced to provide a new memory;

in response to the new memory being provided, causing data to be copied from the non-faulting memory to the new memory while data is being read to and written from the non-faulting memory; and

in response to successful copying to the new memory, causing writes to be performed to both memories of the pair of mirrored memories and selecting one of the pair of mirrored memories for read operations when one or more read operations are performed.

2. A method, according to claim 1, further comprising:

in response to a write being performed to the non-faulting memory while data is being copied from the non-faulting memory to the new memory, causing the write to be performed to the non-faulting memory and the new memory.

3. A method, according to claim 1, further comprising:

in response to a write being performed to the non-faulting memory while data is being copied from the non-faulting memory to the new memory, causing a corresponding portion of the non-faulting memory and the new memory to be locked to prevent additional access thereto.

4. A method, according to claim 1, wherein determining that hardware corresponding to the faulting memory of the pair of mirrored memories has been successfully replaced includes testing the memory hardware prior to causing data to be copied from the non-faulting memory to the new memory.

5. A method, according to claim 4, further comprising:

in response to testing the memory hardware indicating a failure, determining that the hardware has not been successfully replaced.

6. A method, according to claim 4, wherein testing the memory hardware includes having each of a plurality of processors perform tests on a section of the memory hardware.

7. A method, according to claim 6, wherein each of the plurality of processors determines which section of data to test based on information provided to all the processors in a global memory.

8. A method, according to claim 1, wherein causing data to be copied includes having each of a plurality of processors copy a section of the data.

9. A method, according to claim 8, wherein each of the plurality of processors determines which section of data to copy based on information provided to all the processors in a global memory.

10. Computer software that handles a faulting memory of a pair of mirrored memories, comprising:

executable code that initially causes a non-faulting memory of the pair of mirrored memories to service all read and write operations for the pair of mirrored memories;

executable code that determines that hardware corresponding to the faulting memory of the pair of mirrored memories has been successfully replaced to provide a new memory;

executable code that causes data to be copied from the non-faulting memory to the new memory while data is being read to and written from the non-faulting memory after the new memory being provided; and

executable code that causes writes to be performed to both memories of the pair of mirrored memories and selects one of the pair of mirrored memories for read operations when one or more read operations are performed in response to successful copying to the new memory.

11. Computer software, according to claim 10, further comprising:

executable code that causes the write to be performed to the non-faulting memory and the new memory in response to a write being performed to the non-faulting memory while data is being copied from the non-faulting memory to the new memory.

12. Computer software, according to claim 10, further comprising:

executable code that causes a corresponding portion of the non-faulting memory and the new memory to be locked to prevent additional access thereto in response to a write being performed to the non-faulting memory while data is being copied from the non-faulting memory to the new memory.

13. Computer software, according to claim 10, wherein executable code that determines that hardware corresponding to the faulting memory of the pair of mirrored memories has been successfully replaced includes executable code that tests the memory hardware prior to causing data to be copied from the non-faulting memory to the new memory.

14. Computer software, according to claim 13, further comprising:

executable code that determines that the hardware has not been successfully replaced in response to testing the memory hardware indicating a failure.

15. A data storage device, comprising:

a plurality of disk drives;

an internal volatile memory; and

a plurality of directors coupled to the memory, wherein some of the directors are coupled to the disk drives and some of the directors allow external access to the data storage device and wherein each of the directors handles a faulting memory of a pair of mirrored memories by initially causing a non-faulting memory of the pair of mirrored memories to service all read and write operations for the pair of mirrored memories, determining that hardware corresponding to the faulting memory of the pair of mirrored memories has been successfully replaced to provide a new memory, in response to the new memory being provided, causing data to be copied from the non-faulting memory to the new memory while data is being read to and written from the non-faulting memory, and, in response to successful copying to the new memory, causing writes to be performed to both memories of the pair of mirrored memories and selecting one of the pair of mirrored memories for read operations when one or more read operations are performed.

16. A data storage device, according to claim 15, wherein each of the directors, in response to a write being performed to the non-faulting memory while data is being copied from the non-faulting memory to the new memory, causes the write to be performed to the non-faulting memory and the new memory.

17. A data storage device, according to claim 15, wherein each of the directors, in response to a write being performed to the non-faulting memory while data is being copied from the non-faulting memory to the new memory, causes a corresponding portion of the non-faulting memory and the new memory to be locked to prevent additional access thereto.

18. A data storage device, according to claim 15, wherein determining that hardware corresponding to the faulting memory of the pair of mirrored memories has been successfully replaced includes testing the memory hardware prior to causing data to be copied from the non-faulting memory to the new memory.

19. A data storage device, according to claim 18, wherein, in response to testing the memory hardware indicating a failure, at least one of the directors determines that the hardware has not been successfully replaced.

20. A data storage device, according to claim 18, wherein testing the memory hardware includes having at least some of the directors perform tests on a section of the memory hardware.